AMENDMENT UNDER 37 C.F.R. § 1.116
Appln. No. 09/844,275
Docket No. Q64296

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) An EL device driving device comprising:

an EL device having two electrodes;

a first EL driving IC having a first output terminal connected to one electrode of the EL device, a first input terminal, and a first controller for turning on or off an alternating current flowing between the first output terminal and the first input terminal;

a second EL driving IC having a second output terminal connected to the other electrode of the EL device, a second input terminal, and a second controller for turning on or off an alternating current flowing between the second output terminal and the second input terminal;

a first AC power supply for supplying an AC voltage, one electrode of the first AC power supply being connected to the first input terminal, and the other electrode of the first AC power supply being connected to a ground potential point; and

a second AC power supply for supplying an AC voltage having the same waveform as the AC voltage supplied from the first AC supply, and shifted in phase 180 degrees, one electrode of the second AC power supply being connected to the second input terminal, and the other electrode of the second AC power supply being connected to the ground potential point;

wherein said AC voltages are substantially sinusoidal waveforms.

2. (original): The EL device driving device according to claim 1, wherein the amplitude of the AC voltage supplied from the first AC power supply and the second AC power supply is 50V and its frequency is 400Hz.

3. (original): The EL device driving device according to claim 1, wherein

the plurality of EL devices are provided;

the first EL driving IC has a plurality of the first output terminals and a plurality of the first controllers;

the second EL driving IC has a plurality of the second output terminals and a plurality of the second controllers;

the plurality of first output terminals are connected to one electrodes of the plurality of EL devices, respectively;

the first controllers are configured to turn on or off the alternating current flowing between each of the plurality of first output terminals and the first input terminal;

the plurality of second output terminals are connected to the other electrodes of the plurality of EL devices; and

the second controllers are configured to turn on or off the alternating current flowing between each of the plurality of second output terminals and the second input terminal.

4. (original): The EL device driving device according to claim 1, wherein

the first EL driving IC includes an output transistor having one electrode connected to the first output and the other electrode connected to the first input terminal, and a diode connected in parallel to the output transistor, and

the second EL driving IC includes an output transistor having one electrode connected to the second output terminal and the other electrode connected to the second input terminal of the second EL driving IC, and a diode connected in parallel to the output transistor.

5. (original): The EL device driving device according to claim 4, wherein the output transistor is a bipolar transistor or a field effect transistor.

6. (currently amended): An EL device driving device comprising:

an EL device having two electrodes;

an EL driving IC having an output terminal connected to one electrode of the EL device, an input terminal, and a controller for turning on or off an alternating current flowing between the output terminal and the input terminal;

a first AC power supply for supplying an AC voltage, one electrode of the first AC power supply being connected to the other electrode of the EL device, and the other electrode of the first AC power supply being connected to a ground potential point; and

a second AC power supply for supplying an AC voltage having the same waveform as the AC voltage supplied from the first AC supply and shifted in phase 180 degrees, one electrode of the second AC power supply being connected to the input terminal of the EL driving IC, and the other electrode of the second AC power supply being connected to the ground potential point;

wherein said AC voltages are substantially sinusoidal waveforms.

7. (original): The EL device driving device according to claim 6, wherein the amplitude of the AC voltage supplied from the first AC power supply and the second AC power supply is 50V and its frequency is 400Hz.

8. (currently amended): The EL device driving device according to claim 6, wherein the plurality of EL devices are provided;

the EL driving IC has the plurality of output terminals and the plurality of controllers for turning on or off the alternating current corresponding to the plurality of EL devices, respectively;

the plurality of output terminals for the EL driving IC are connected to one electrodes of the plurality of EL devices, respectively;

the one electrode for the first AC power supply is connected to the other electrodes of the plurality of EL devices;

the controllers are configured to turn on or off the alternating current flowing between each of the plurality of output terminals and the input terminal;

wherein said AC voltages are substantially sinusoidal waveforms.

9. (original): The EL device driving device according to claim 6, wherein the EL driving IC includes an output transistor having one electrode connected to the output terminal of the EL driving IC and the other electrode connected to the input terminal of the EL driving IC, and a diode connected in parallel to the output transistor.

10. (original): The EL device driving device according to claim 9, wherein the output transistor is a bipolar transistor or a field effect transistor.

11. (currently amended): An EL device driving device comprising:

an EL device having two electrodes;

a discrete EL driving IC having an output terminal connected to one electrode of the EL device, an input terminal connected to a ground potential point, and a controller for turning on or off an alternating current flowing between the output terminal and the input terminal; and

a discrete AC power supply for supplying an AC voltage without superposition of direct current, one electrode of the AC power supply being connected to the other electrode of the EL device, and the other electrode of the AC power supply being connected to the ground potential point,

wherein said AC voltage is a substantially sinusoidal waveform.

12. (original): The EL device driving device according to claim 11, wherein the amplitude of the AC voltage supplied from the AC power supply is 100V and its frequency is 400Hz.

13. (original): The EL device driving device according to claim 11, wherein

the plurality of EL devices are provided;

the EL driving IC has the plurality of output terminals and the plurality of controllers for turning on or off the alternating current corresponding to the plurality of EL devices, respectively;

the plurality of output terminals for the EL driving IC are connected to one electrodes of the plurality of EL devices, respectively;

the one electrode for the AC power supply is connected to the other electrodes of the plurality of EL devices; and

the controllers is configured to turn on or off the alternating current flowing between each of the plurality of output terminals and the input terminal.

14. (original): The EL device driving device according to claim 11, wherein the EL driving IC includes an output transistor having one electrode connected to the output terminal of the EL driving IC and the other electrode connected to the input terminal of the EL driving IC, and a diode connected in parallel to the output transistor.

15. (original): The EL device driving device according to claim 14, wherein the output transistor is a bipolar transistor or a field effect transistor.

16. (previously presented): An EL device driving device comprising:

an EL device having two electrodes;

a discrete AC power supply for supplying an AC voltage, one electrode of the AC power supply being connected to one electrode of the EL device, and the other electrode of the AC power supply being connected to a ground potential point; and

a discrete EL driving circuit including

a first energizing circuit for energizing a first diode connected to the other electrode of the EL device to pass current in a direction from the EL device to the AC power supply;

a second energizing circuit for energizing a second diode connected to the other electrode of the EL device to pass current in a direction from the AC power supply to the EL device; and

an energizing control circuit for turning on or off the first and second energizing circuits in synchronism with a positive or negative change in the AC voltage supplied from the AC power supply;

wherein said AC voltages are substantially sinusoidal waveforms.

17. (original): The EL device driving device according to claim 16, wherein the amplitude of the AC voltage supplied from the AC power supply is 100V and its frequency is 400Hz.

18. (original): The EL device driving device according to claim 16, wherein

the plurality of EL devices are provided;

the plurality of first and second energizing circuits are provided corresponding to the plurality of EL devices, respectively; and

the energizing control circuit is configured to turn on or off each of the plurality of first and second energizing circuits corresponding to the plurality of EL devices.

19. (original): The EL device driving device according to claim 16, wherein

one electrode of the first diode is connected to the other electrode of the EL device;

the first energizing circuit enables the other electrode of the first diode to be at the ground potential when the first energizing circuit is turned on;

one electrode of the second diode is connected to the other electrode of the EL device; and

the other electrode of the second diode is connected to the ground potential point.

20. (original): The EL device driving device according to claim 16, wherein

the energizing control circuit turns on the first energizing circuit, and turns off the second energizing circuit, when the AV voltage supplied from the AC power supply is at a negative potential, and

the energizing control circuit turns off the first energizing circuit, and turns on the second energizing circuit, when the AV voltage supplied from the AC power supply is at a positive potential.

21. (currently amended): An EL device driving method comprising the steps of:

passing a current from a first AC power supply to one electrode of an EL device through a diode within a first EL driving IC, and from the other electrode of the EL device to a second AC power supply through an output transistor in the on state within a second EL driving IC, when the AC voltage supplied from the first AC power supply is higher than the AC voltage supplied from the second AC power supply with the same waveform as the AC voltage supplied from the first AC power supply and shifted in phase 180 degrees; and

passing a current from the second AC power supply to the other electrode of the EL device through a diode connected in parallel to the output transistor within the second EL driving IC, and from one electrode of the EL device to the first AC power supply device through the output transistor in the on state connected in parallel to the diode within the first EL driving IC, when the AC voltage supplied from the first AC power supply is lower than the AC voltage supplied from the second AC power supply;

wherein said AC voltages are substantially sinusoidal waveforms.

22. (original): The EL device driving method according to claim 21, wherein the amplitude of the AC voltage supplied from the first AC power supply and the second AC power supply is 50V and its frequency is 400Hz.

23. (original): The EL device driving method according to claim 21, wherein the output transistor is a bipolar transistor or a field effect transistor.

24. (currently amended): An EL device driving method comprising the steps of:

passing a current from a first AC power supply to one electrode of an EL device, and from the other electrode of the EL device through an output transistor in on state within an EL driving IC to a second AC power supply, when the AC voltage supplied from the first AC power supply is higher than the AC voltage supplied from the second AC power supply, with the same waveform as the AC voltage supplied from the first AC power supply and shifted in phase 180 degrees; and

passing a current from the second AC power supply to the other electrode of the EL device through a diode connected in parallel to the output transistor within the EL driving IC, and from one electrode of the EL device to the first AC power supply, when the AC voltage

supplied from the first AC power supply is lower than the AC voltage supplied from the second AC power supply;

wherein said AC voltages are substantially sinusoidal waveforms.

25. (original): The EL device driving method according to claim 24, wherein the amplitude of the AC voltage supplied from the first AC power supply and the second AC power supply is 50V and its frequency is 400Hz.

26. (original): The EL device driving method according to claim 24, wherein the output transistor is a bipolar transistor or a field effect transistor.

27. (original): An EL device driving method comprising the steps of:

passing a current from a AC power supply to one electrode of an EL device, and from the other electrode of the EL device to the ground potential point through an output transistor in the on state within an EL driving IC, when the AC voltage without superposition of direct current supplied from the AC power supply is higher than a ground potential; and

passing a current from the ground potential point to the other electrode of the EL device through a diode connected in parallel to the output transistor in the on state within the EL driving

IC, and from one electrode of the EL device to the AC power supply, when the AC voltage supplied from the AC power supply is lower than the ground potential;

wherein said AC voltage is a substantially sinusoidal waveform.

28. (original): The EL device driving method according to claim 27, wherein the amplitude of the AC voltage supplied from the AC power supply is 100V and its frequency is 400Hz.

29. (original): The EL device driving method according to claim 27, wherein the output transistor is a bipolar transistor or a field effect transistor.

30 (previously presented): The EL device driving device of claim 1, wherein said AC voltage is a sinusoidal waveform.

31 (previously presented): The EL device driving device of claim 6, wherein said AC voltages are sinusoidal waveforms.

32. (previously presented): The EL device driving device of claim 16, wherein said AC voltage is a sinusoidal waveform.

33 (previously presented): The EL device driving method of claim 21, wherein said AC voltages are sinusoidal waveforms.

34 (previously presented): The EL device driving method of claim 24, wherein said AC voltages are sinusoidal waveforms.

35 (previously presented): The EL device driving method of claim 27, wherein said AC voltage is a sinusoidal waveform.